REMARKS/ARGUMENTS

I. The Currently Claimed Invention

As currently claimed, the invention is a power transmission belt for a motor vehicle and presenting V-ribs made of a single elastomer material and having flat side faces and rounded ridges, wherein said ridges present a convex curvilinear profile having a mean radius of curvature greater than 1 mm and less than or equal to 1.5 mm. Applicants have identified the problem of free zone swelling deformation, which leads to cracking, and how to remedy the problem. Accordingly, the claimed belt allows an improved behavior of a belt faced with flexing phenomena while also improving the behavior relative to swelling that generates cracking at the ridges of the belt. This result, which was not obtained prior to the claimed invention, extends the lifetime of a belt.

II. Rejections under 35 U.S.C. §103(a)

To establish a prima facie case of obviousness there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the references or to combine reference teachings. Furthermore, the teaching or suggestion to make the claimed invention must be found in the prior art, not in applicant's disclosure. The Office has not proven a *prima facie* case of obviousness because neither the references cited nor the knowledge generally available in the art provides any suggestion to modify or combine the prior art in the manner suggested by the Office.

a. Rejections under Kitahama in view of White

Claims 1-12 and 15-17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over US Patent No. 4,904,232 to Kitahama et al. (hereinafter "Kitahama) in view of US Patent No. 4,981,462 to White et al. (hereinafter "White"). The Office contends that "it would have been obvious to one of ordinary skill ... to modify the belt of Kitahama et al. so that it is made from a single elastomeric material in view of White et al. in order to avoid cracking that is associated with v-ribs made from different elastomeric materials."

Independent Claim 1 recites a power transmission belt for a motor vehicle and presenting V-ribs made of a single elastomer material and having flat side faces and rounded ridges, wherein said ridges present a convex curvilinear profile having a mean radius of curvature greater than 1 mm and less than or equal to 1.5 mm. Claims 2-12 and 15-17 are dependent upon Claim 1.

Kitahama discloses that belts having compression sections comprising a single material form cracks extending outwardly from the distal end of the ribs. Accordingly, Kitahama teaches a ribbed belt including inner and outer compression portions made from different rubber materials. Specifically, Kitahama teaches that "[i]t is preferred that the difference between the hardness of the two portions 16 and 17 be at least 5° Shore A." See column 3, lines 35-37. On column 1, lines 38-56, Kitahama states the following:

> The present invention comprehends the provision of such a multiribbed power transmission belt including an outer portion having a plurality of transversely spaced, longitudinally extending tensile cords embedded therein, a fabric cover on an outer surface of the outer portion of the belt, a compression section extending inwardly from said outer portion and defining a plurality of laterally spaced, longitudinally extending ribs, **each rib having an outer portion formed of a first rubber material** and defining inwardly converging planar opposite side surfaces for engaging complementary pulley groove side surfaces, and **an inner portion formed of a second rubber having a hardness less than the hardness of the outer portion** and defining inwardly converging arcuate opposite side surfaces and an inner tip portion, the outer portion planar side surfaces being tangent to the inner portion arcuate side surfaces respectively at a junction of the outer and inner portions of the compression section ribs.

Kitahama indisputably teaches that belts having a compression section comprising an outer compression section and an inner compression section wherein the inner compression section is made of a softer material than that of the outer compression section exhibit a substantially greater useful life. See Column 4, lines 39-46 and Figures 7 -9. Despite being superior, belts constructed with an inner portion comprising a softer rubber, over time, begin to exhibit the formation of cracks in the harder rubber.

Having demonstrated the superiority of such belts, Kitahama embarked on improving the performance of such belts. Kitahama performed several tests varying the circular side surfaces of the inner portion of the compression section (i.e. the softer material). As shown on Figure 11, Kitaham teaches that the lifetime ratio increases by increasing the radius of the inner portion of the compression section (i.e. the softer material). Furthermore, Kitahama, on column 6, lines 7-11, teaches that "the provision of the arcuate inwardly converging surfaces of the inner portion of the compression section avoid contact thereof with the pulley surfaces, thereby uniformly dispersing stress in the ribs so as to provide the improved crack resistance and wear characteristics."

Kitahama makes a clear assertion as to the superiority and desirability of using different materials of construction for the inner and outer compression portions of such belts. In fact for belts according Kitahama, it is essential that the ribs are made of two elastomeric materials having a different hardness, with the top of the ribs (internal portion 17) having a lower hardness than the rest of the rib to avoid crack formation.

Contrary to Kitahama, White teaches an endless power transmission belt construction having opposed side edges and having an inner surface of a single elastomeric material defining a plurality of longitudinally disposed and alternately spaced apart like projections and grooves for meshing with an outer peripheral ribbed surface of a rotatable pulley; wherein each projection of the belt construction has a generally V-shaped transverse cross-sectional configuration defined by two substantially straight side edges that converge from the respective apexes of the grooves of the belt construction that are on opposite sides of that projection to an apex of that projection. The side edges of each projection of the belt construction define an angle of approximately 60 degrees therebetween with the thickness of the belt construction being substantially the same as the thickness of a similar belt construction wherein the angle is approximately 40 degrees. In particular, White teaches that the angle between the side edges of each V-rib of a belt construction of approximately 60 degrees while maintaining the same thickness as the belt construction that had an included angle of 40 degrees is more essential for reducing belt noise, the accumulation of material between the ribs, and reduce tension decay of the belt construction. See column 1, line 67 through column 2, line 7.

The combination of Kitahama and White, in the manner proposed by the Office, would result in a belt having a compression section comprising a single elastomeric material. However, Kitahama specifically shows that one of the advantages of using a compression section having an outer and inner portion of different materials is an increased life ratio. See column 4, lines 44-46 and Figure 9. Accordingly, the design that results from the combination of Kitahama in view of White is antithetical to the explicit advantages and motivation for constructing belts having compression sections comprising different materials. After reading Kitahama, one skilled in the art would be incited to steer away from using only one material of construction for the compression section of such belts. As discussed on column 6, lines 7-11, Kitahama's geometrical change of the ribs makes sense only if a softer rubber in the inner portion 17 of the ribs is utilized. As such, the teaching of Kitahama cannot apply to a belt where the ribs are made of a single elastomeric material, because on the one hand, such a belt is known as having undesirable crack formation, and on the other hand, it is devoid of the problem of wear which is found in belts with ribs having an internal portion 17 with a softer rubber, and which Kitahama aims at solving. Therefore, Kitahama teaches away from such a combination, and Kitahama in view of White fails to provide a *prima facie* case of obviousness that is necessary for a proper rejection of Claims 1-12 and 15-17.

Additionally, the Office appears to argue that Kitahama discloses a belt having a rib height (H) of 2.5 mm, an inner portion of 0.8 mm, and a flat side face (ℓ) of 1.73 mm. However, the inner portion dimension of 0.8 mm is drawn from an example describing a 900 mm belt (column 4, lines 59-62) and the H dimension is drawn from a separate example discussing a completely different belt, namely a 975 mm belt (column 5, lines 36-40). The Office uses the H dimension from the 975 mm belt and the inner portion dimension from the 900 mm belt to arrive at a 1.7 mm vertical height for the outer portion of the compression section by subtraction 0.8 mm from 2.5 mm. With this calculated value, the Office purposely selects an inclusion angle from the broad range of 20° to 80° such that ℓ may be calculated to fall within some of the ranges currently recited in dependent claims. However, Kitahama provides no support for such intermixing of belt dimensions. Accordingly, the Office has applied an improper "obvious-to-try" test. In particular, the Office has selectively picked dimensions from different belts despite

the failure of Kitahama to provide such a motivation or suggestion of desirability. Clearly, the values were selected on the sole basis of attempting to reconstruct the currently claimed invention based on Applicants' own disclosure, which is not permitted.

In view of the foregoing remarks, it is respectfully submitted that the rejections of Claims 1-12 and 15-17 under 35 USC §103(a) have been overcome. Applicants request withdrawal of the rejections.

b. Rejections under the combination of Kitahama and White in view of Waugh

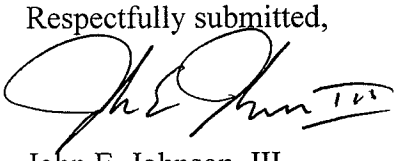
Claims 13 and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over the combination of Kitahama and White, and further in view of US Patent No. 4,011,766 to Waugh (hereinafter "Waugh"). Claims 13-14 are dependent upon independent Claims 1 and therefore also recite a power transmission belt for a motor vehicle and presenting V-ribs made of a single elastomer material and having flat side faces and rounded ridges, wherein said ridges present a convex curvilinear profile having a mean radius of curvature greater than 1 mm and less than or equal to 1.5 mm. Since independent Claim 1 is not *prima facie* obviousness, dependent claims 13-14 are also non-obvious. Applicants request withdrawal of the rejections.

III. Conclusion

In view of the remarks made above, Applicants submit that the pending claims are in condition for allowance. Applicants respectfully request that the claims be allowed to issue. If the Examiner wishes to discuss the application or the comments herein, the Examiner is urged to contact the undersigned.

It is not believed that extensions of time or fees for net addition of claims are required, beyond those that may otherwise be provided for in documents accompanying this paper. However, in the event that additional extensions of time are necessary to allow consideration of this paper, such extensions are hereby petitioned under 37 CFR § 1.136(a), and any fee required therefore (including fees for net addition of claims) is hereby authorized to be charged to Deposit Account No. 16-0605.

Respectfully submitted,



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